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ning of each regular issue of the PCT Gazette.*

(54) Title: DOUBLE-STRANDED OLIGONUCLEOTIDES

(57) Abstract: Antisense sequences, including duplex RNAi compositions, which possess improved properties over those taught in the prior art are disclosed. The invention provides optimized antisense oligomer compositions and method for making and using the both in *in vitro* systems and therapeutically. The invention also provides methods of making and using the improved antisense oligomer compositions.

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## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/03223

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) : C07H 21/04; C12N 15/00

US CL : 536/24.1, 24.5

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 536/24.1, 24.5

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
WEST, CAPLUS, EMBASE, BIOTECHNO, MEDLINE**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	ASHLEY et al., Chemical Synthesis of Oligodeoxynucleotide Dumbbells. Biochemistry. 1991, Vol. 30, pages 2927-2933, see entire document.	1-4, 14, 15
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Y		5-13, 16-23
Y	GIOVANNANGELI et al., Oligonucleotide Clamps Arrest DNA synthesis on a single-Stranded DNA Target. Proc. Natl. Acad. Sci. November 1993, Vol. 90, pages 10013-10017, see entire document.	1-23
Y	CHU et al., The Stability of Different Forms of Double-Stranded Decoy DNA in Serum and Nuclear Extracts, nucleic Acids Research, 1992, Vol. 20, No. 21, pages 5857-5858,	1-23
Y	YAMAKAWA et al., Properties and Anti-HIV Activity of Nicked Dumbbell Oligonucleotides. Nucleosides & Nucleotides. 1996, Vol. 15, Nos. 1-3, pages 519-529, see entire document.	1-23
Y	US 6,048,974 A (GRYAZNOV et al) 11 April 2000 (11.04.2000), see entire document.	1-23
Y	US 6,133,024 (HELENE et al) 17 October 2000 (17.10.2000), see entire document.	1-23

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